

## **Remarks**

### **I. Status of the Claims**

As originally filed, the present application had a total of 10 claims. In previous prosecution, all of the original claims were cancelled and replaced with claims 11-34. Later, claims 12, 16-18, 13, 21 and 24 were cancelled and new claims 35-37 were added. Thus, the claims now pending are 11, 14, 15, 19, 20, 22, 23, and 25-37.

### **II. The Amendments**

Claims 22 and 23 were amended so that they refer to amino acids that are "isolated" rather than "recovered." Thus, the amendments make the language in these claims consistent with their base claim, *i.e.*, claim 11.

Claims 11 and 22 were amended so that, in the latter part of the claims, they refer to an "L-amino acid" rather than "L-threonine." Again, Applicant believes that the amendment makes the language used in the claims more consistent throughout.

Applicant submits that the amendments do not add new matter to the application and respectfully requests that they be entered. If the Examiner is not in agreement, then Applicant respectfully requests that they be informed of this so that they can either make further amendments or withdraw amendments made herein.

## **The Rejections**

### **I. Rejection of Claims Under 35 USC § 112, Second Paragraph**

On pages 2-3 of the Office Action, claims 22 and 23 are rejected as being indefinite. The Examiner states that it is unclear how the term "recovered" used in these claims (and later in claim 35) differs from the term "isolated" or "isolating" used in claim 11. Although Applicant is attempting to make a distinction between these terms, it is allegedly unclear exactly what this distinction is.

Applicant believes that there is a difference between the terms "recover" and "isolate" and that the definition of these terms is important not only with respect to the present

rejection but also with respect to the rejection under 35 USC § 103 discussed below. Online dictionaries define these terms as follows:

**isolate** (ī' sō-lāt)

1. To separate, to set apart from others; that which is so treated.
2. To free of chemical contaminants.
3. In psychoanalysis, to separate ideas, experiences, or memories from the affects pertaining to them.
4. In group psychotherapy, an individual who is not responded to by others in the group.
5. Viable organisms separated on a single occasion from a sample taken from a host or culture system.
6. A population that for geographic, linguistic, cultural, social, religious, or other reasons is subject to little or no gene flow. Syn: genetic isolate

**re·cov·er** (rĭ-kŭv'ər)

1. To get back; regain.
2. To restore (oneself) to a normal state: *He recovered himself after a slip on the ice.*
3. To compensate for: *She recovered her losses.*
4. To procure (usable substances, such as metal) from unusable substances, such as ore or waste.
5. To bring under observation again: "*watching the comet since it was first recovered—first spotted since its 1910 visit*" (Christian Science Monitor).

For our purposes, the relevant definitions for "isolate" are given as numbers 1 and 2 and the relevant definitions for "recover" are 1 and 4. It can be seen that the term "isolate" entails a degree of purification (although, as the Examiner points out later in the Office Action, not necessarily complete purification). The term "recover" means getting something back but does not necessarily require purification. The processes claimed in the application may be used for the production of animal feeds and, as is often done in these cases, the entire fermentation broth may simply be obtained and used without removing any of the components present. Typically, these broths are dried, and although the various components are concentrated by the removal of water, they are not purified from one another. Thus, the amino acids produced are "recovered" as part of the fermentation broth, but they have not been isolated.

Alternatively, the fermentation broth may undergo processing to enrich preparations in amino acids and to remove other components. Under these circumstances the amino acids would be both recovered and isolated.

## **II. Rejection of Claims Under 35 USC § 103**

On pages 3-7 of the Office Action, the Examiner rejects claims 11, 14, 15, 19, 20, 22, 23, 25-27 and 33 based upon the allegation that they are obvious in light of the combination of Volz (*Prot. Sci.* 8:24-28 (1999)) and Enos-Berlage (*J. Bacteriol.* 180:6519-6528 (1998)). Although the references do not specifically disclose that mutations in yigF affect amino acid production, the Examiner argues that changes in production are the inherent result of the mutations. Thus, the authors have allegedly taught an improved method of amino acid production even though they do not recognize it as such.

Applicant respectfully traverses this rejection.

Applicant believes that part of the reason for the present rejection may be uncertainty concerning the meaning of the term "isolate." As discussed above, this term requires that at least one amino acid be purified to some degree. Thus, one would need to recognize that the amino acid was being produced and perform some type of affirmative act to separate it from other components in the fermentation broth.

An inherent element in a prior art process is one that, although not expressly disclosed, is the *necessary* consequence of the elements that are disclosed. Being merely a possibility is not sufficient. Thus, in order for the Examiner's allegation of obviousness to prevail, the isolation of one or more amino acids must be the necessary consequence of the cell culturing method taught in the cited references. Although the amino acids made by cells may be inherent in mutations to cells, the isolation of a selected component or type of component from the fermentation broth clearly is not. One carrying out the methods disclosed in the references could, for example, recover the entire culture broth without performing any purification steps or they could purify a component other than an amino acid. Since, as acknowledged by the Examiner, the references do not teach a relationship between the yigF

mutation and amino acid production, the isolation of amino acids would not be an obvious choice.

### **Conclusion**

In light of the discussion above, Applicant believes that all of the Examiner's rejections have been overcome. It is therefore respectfully requested that these rejections be withdrawn and that the claims now pending in the application be allowed. Early notice to this effect is earnestly solicited. If, in the opinion of the Examiner, a phone may expedite the prosecution of this application, the Examiner is invited to call Applicant's undersigned attorney at (240) 683-6165.

Respectfully submitted,

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